

LOW VOLTAGE POWER AMPLIFIER

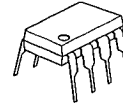
■ GENERAL DESCRIPTION

NJM2070 is a power amplification monolithic IC of wide Operating voltage range. It is applied for audio power amplifier in portable radio and handy cassette player.

■ FEATURES

- Operating Voltage (1.8V~15V)
- Low Operating Current 4mA (typ : $V^+=6V$)
- Package Outline DIP8, DMP8
- Bipolar Technology

■ PACKAGE OUTLINE

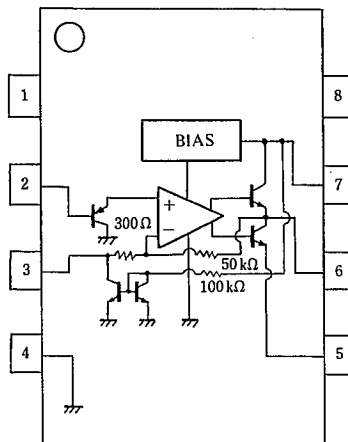


NJM2070D



NJM2070M

■ PIN CONFIGURATION



NJM2070D
NJM2070M

PIN FUNCTION

1. NC
2. +INPUT
3. -INPUT
4. GND
5. GND
6. OUTPUT
7. V^+
8. NC

5

■ ABSOLUTE MAXIMUM RATINGS

(Ta=25°C)

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V*	15	V
Output Peak Current	I _{OP}	1	A
Power Dissipation	P _D	(DIP8) 700 (DMP8) 500 (note)	mW
Operating Temperature Range	T _{opr}	-40 ~ +85	°C
Storage Temperature Range	T _{stg}	-40 ~ +125	°C

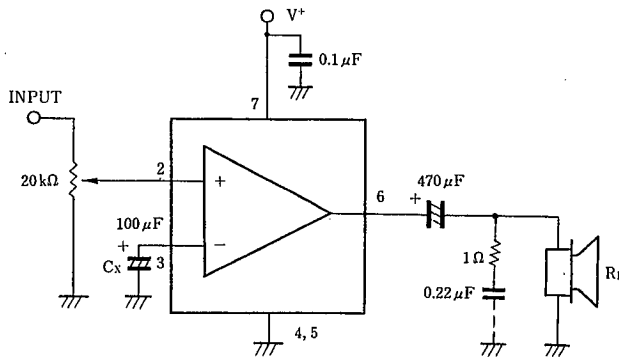
(note) At on PC board

■ ELECTRICAL CHARACTERISTICS

(V*=6V, Ta=25°C)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Operating Voltage	V*		1.8	—	15	V
Output Voltage	V _O		—	2.7	—	V
Operating Current	I _{CC}	R _L = ∞	—	4	7	mA
Input Bias Current	I _{IB}		—	200	—	nA
Output Power	P _O	THD=10%, f=1kHz				
	P _O	V*=6V, R _L =4Ω	0.5	0.6	—	W
	P _O	V*=4.5V, R _L =4Ω	—	0.32	—	W
	P _O	V*=3V, R _L =4Ω	—	120	—	mW
	P _O	V*=2V, R _L =4Ω	—	30	—	mW
	P _O	THD=1%, f=1kHz				
	P _O	V*=6V, R _L =4Ω	—	500	—	mW
	P _O	V*=4.5V, R _L =4Ω	—	250	—	mW
Total Harmonic Distortion	THD	P _O =0.4W, R _L =4Ω, f=1kHz	—	0.25	—	%
Voltage Gain	A _v	f=1kHz	41	44	47	dB
Input Impedance	Z _{IN}	f=1kHz	100	—	—	kΩ
Equivalent Input Noise Voltage	V _{N11}	R _S =10kΩ, A Curve	—	2.5	—	μV
	V _{N12}	R _S =10kΩ, B=22Hz~22kHz	—	3	—	μV
Ripple Rejection	RR	f=100Hz, C _X =100μF	24	30	—	dB
Cut Off Frequency	f _H	A _v =-3dB from f=1kHz R=8Ω, P _O =250mW	—	200	—	kHz

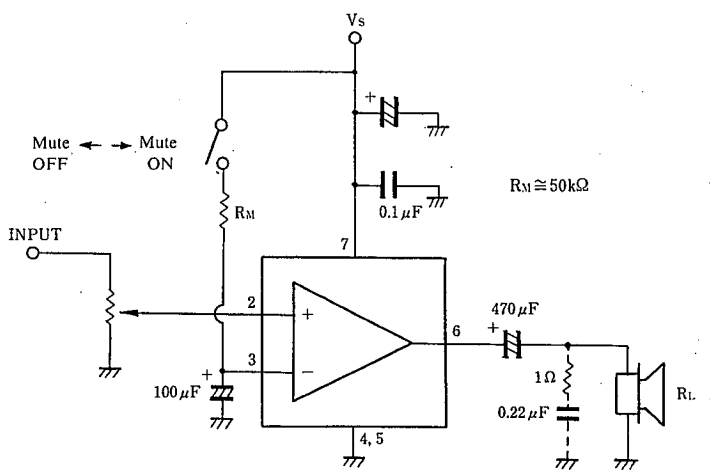
■ TYPICAL APPLICATION AND TEST CIRCUIT



■ OSCILLATION PREVENTION

Put in series a 1Ω resistor and a 0.22 μF capacitor on parallel to load, if the load is speaker. Recommend putting in parallel between pin 4 and pin 7, 0.1 μF and more than 100 μF capacitors with good high frequency characteristics near to the ground and supply voltage pins on parallel.

■ MUTING CIRCUIT



5

MEMO

[CAUTION]

The specifications on this databook are only given for information, without any guarantee as regards either mistakes or omissions. The application circuits in this databook are described only to show representative usages of the product and not intended for the guarantee or permission of any right including the industrial rights.